

***The Institution of Engineers, Australia: Sydney Division
Engineering Heritage Committee***

Oral History Program: Biographical Notes

Doug Ebeling (1929 - 2004)

Mechanical and Nuclear Engineer

- Birth and Family:** Douglas Roy Ebeling, born 31 December 1929 in Yarraville, Vic. Father ran a marine engineering firm which also manufactured 'Ebeling' street sweepers. One sister, Margaret.
- Education:** Yarraville West Primary School then Footscray Technical College (later to become Footscray University of Technology) He went to Melbourne University to study Mechanical Engineering.
- Qualifications:** 1949 Dip Mech Eng, Dip Elec Eng, Footscray Technical College
1951 B. Mech Eng (Hons), University of Melbourne
1975 M.E. (Nuc), University of New South Wales
- Memberships:** F.I.E. (Aust),
- Awards:**
- Work History:** 1952 - first job was as Plant Engineer at ICI Explosives Plant, Deer Park, Melbourne. Significant projects were upgrading of the sulphuric acid plant, and an innovative method for pumping nitroglycerine.
- In 1955, to broaden his experience, he transferred as Design Engineer to the Nylon Plant Design Project, at ICI Dyestuffs Division at Wilton in the United Kingdom.
- 1956 took up a job advertised for an Australian engineer to work for 12 months at the UKAEA (United Kingdom Atomic Energy Agency) Harwell DIDO reactor, to study reactor design in preparation for the HIFAR contract in Sydney.
- 1957 Construction Engineer, Australian Atomic Energy Commission (AAEC) Lucas Heights, HIFAR reactor design and Construction.
- 1959 Design & Development Engineer, Design and Plant Office, Lucas Heights. Involved in design and construction of nuclear experimental equipment, Dounreay flasks for shipping spent fuel, and 'hot cells' for storing radioactive materials using 'heavy concrete'.
- In 1962 Ebeling was promoted to Section Head Design and Development, at Lucas Heights - OIC all Design, Workshops, Maintenance, and in 1965 he served as acting Chief of the Engineering Research Division for about 10 months, until the new appointee could arrive from the UK.
- Ebeling was appointed to the Reactor Design Study Group in 1966, researching types of reactors that might be chosen for the nuclear power reactor then proposed for Jervis Bay. He led a team to Risley in the UK in 1967, to investigate the steam generating heavy water reactor. Asked to do a design exercise for a cheaper version of the steam generating

reactor, Ebeling and his team came up with a graphite-moderated version. They concluded that it was not a completely stable option; it later eventuated that the design concept was the same as that used by the RMVK design at Chernobyl. The Jervis Bay project did not proceed because coal-fired generation could produce cheaper electricity.

In 1970 he was appointed Section Head of the Lucas Heights Mechanical Development Section and began a 15 year project on development of a high-speed centrifuge system for uranium reprocessing and enrichment. The team began with almost no starting information apart from one published research paper, and succeeded in developing a working system, before a new government ordered that the project be closed down. .

After this, he became Chief of Engineering Research in 1987. His major project was research into seismic phenomena in the Sydney region.

Following his retirement from ANSTO (Australian Nuclear Science & Technology Organisation) in 1990, Ebeling undertook some consultancies, for clients including CRA, Western Mining Corporation, and Metz. This last one was in the Philippines, to report on a completed but never commissioned nuclear power plant. Out of that there came a project on researching development of a high-efficiency ceramic gas burner system for more efficient steam generation. Ebeling was involved with this project at the time of interview in 1995.

Doug Ebeling died on 5 Jul 2004. At the time of his death he was Chairman of the IE (Aust) Nuclear Engineering Panel.

He was a member of The Royal Sydney Yacht Squadron, The Royal Motor Yacht Club of New South Wales, The Royal Prince Alfred Yacht Club, as well as The Commonwealth Club, Canberra.

Prepared by Sarah Szacsvay, 28 September 2004 from oral history interview conducted on 1 November 1995.